

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
24 July 2003 (24.07.2003)

PCT

(10) International Publication Number
WO 03/061109 A1

(51) International Patent Classification⁷: **H03B 5/18,**
H03K 3/03

CHAN, Steven [US/US]; 1155 Warburton Avenue #10-S,
Yonkers, NY 10701 (US).

(21) International Application Number: PCT/US03/00932

(74) Agents: **TANG, Henry et al.**; Baker & Botts, LLP, 30
Rockefeller Plaza, New York, NY 10112-4498 (US).

(22) International Filing Date: 13 January 2003 (13.01.2003)

(25) Filing Language: English

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE,
SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ,
VC, VN, YU, ZA, ZM, ZW.

(26) Publication Language: English

(30) Priority Data:
60/347,415 11 January 2002 (11.01.2002) US

(71) Applicant (*for all designated States except US*): **THE
TRUSTEES OF COLUMBIA UNIVERSITY IN THE
CITY OF NEW YORK** [US/US]; 116th Street and
Broadway, New York, NY 10027 (US).

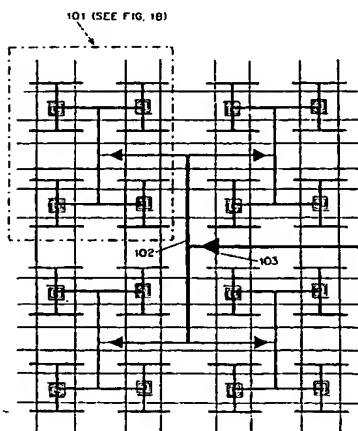
(84) Designated States (*regional*): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI,

(72) Inventors; and

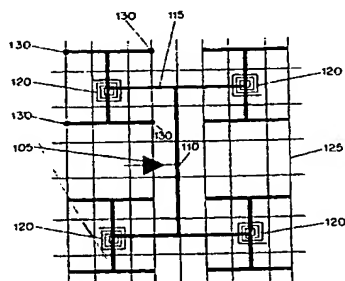
(75) Inventors/Applicants (*for US only*): **SHEPARD, Ken-
neth** [US/US]; 158 Evan Drive, Ossining, NY 10562 (US).

[Continued on next page]

(54) Title: **RESONANT CLOCK DISTRIBUTION FOR VERY LARGE SCALE INTEGRATED CIRCUITS**



(57) Abstract: A circuit for distributing a clock signal in an integrated circuit includes a capacitive clock distribution circuit (102) having at least conductor (115) therein. At least one inductor is formed in a metal layer of the integrated circuit and is coupled to the clock distribution circuit. The inductor, generally in the form of a number of spiral inductors (120) distributed throughout the integrated circuit, provides an inductance value selected to resonate with the capacitive clock distribution circuit at resonance, power dissipation is reduced while skew and jitter performance can be improved.



WO 03/061109 A1



SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Published:

- *with international search report*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*